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DATE MAILED: 04/01/2005

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,592	02/06/2004	Chi Hong Pai	021653-000400US	8959
20350	7590 04/01/2005		EXAM	INER
	O AND TOWNSEND AN	CLARK, JASMINE JHIHAN B		
TWO EMBAR EIGHTH FLO	RCADERO CENTER OR		ART UNIT	PAPER NUMBER
SAN FRANC	ISCO, CA 94111-3834		2815	-

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary    Samine   10/773,592		Application No.	Applicant(s)				
Jasmine J Clark   Jasmine J				SA)			
- The MAILING DATE of this communication appears on the cover sheet with the correspondence address — Period for Repty  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  Extension of time may be available under the provisions of 3 CPR 1.35(a). In no event, however, may a reply be timely filed where SX (b) NCMTRS from the malting date of this communication.  If the period of reply is specified above, he maximum statutory period will apply within the statutory reliated was period and will be considered timely.  If NO period for reply is specified above, he maximum statutory period will apply within the statutory reliated was period and will be considered to the communication.  If NO period for reply is specified above, he maximum statutory are all will apply within the continuous control of the communication of the communication and patent form adjustment. See 37 CPR 1.74(b).  **This action is FINAL.**  1) Responsive to communication(s) filed on	Office Action Summary	Examiner	Art Unit				
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  Extensions of lines may be available under the provisions of 37 CFR 1.35(s), in no event, however, may a raply be timely find  Extensions of lines may be available under the provisions of 37 CFR 1.35(s), which is extended to the provisions of 1.35 CFR 1.35(s), which is extended to the provisions of 1.35 CFR 1.35(s), which is extended proved for many of the provision of Claims  4) Claim(s) 1.17 (s/are pending in the application.  4a) Of the above claim(s) is/are victorial in the provision of Claims  4) Claim(s) 1.17 (s/are pending in the application.  4a) Of the above claim(s) is/are victorial in siarre withdrawn from consideration.  5) Claim(s) 1.17 (s/are pending in the application.  4a) Of the above claim(s) is/are victorial in siarre withdrawn from consideration.  5) Claim(s) 1.17 (s/are allowed.  5) Claim(s) 1.17 (s/are pending in the application.  4a) Of the above claim(s) is/are victorial in siarre withdrawn from consideration.  5) Claim(s) 1.17 (s/are rejected.  7) Claim(s) 3.18 (s/are rejected to by the Examiner.  Application Papers  9) The specification is objected to by the Examiner.  Application Papers  9) The provision of Claims are subject to restriction and/or election requirement.  Application Papers  9) The claim(s) is/are objected to by the Examiner.  10) The drawing(s) filed on 06 February 2004 (s/are: a) accepted or b) objected to by the Examiner.  Application Papers  9) The specification is objected to by the Examiner.  10) The drawing(s) filed on 06 February 2004 (s/are: a) accepted or b) objected to by the Examiner.  Application Papers  9) The contraction of the provision of the		Jasmine J. Clark	2815				
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  Exemptions of time may be waited by under the providence of 3 CPF 1 136(b). In no event, however, may a reply be timely field  Exemption of time may be available under the providence of 3 CPF 1 136(b). In no event, however, may a reply be timely field  If the period for reply specified above is less than thirty (30) days, a reply while the calculary minimum of thirty (30) days, will be considered timely.  If the period for reply specified above is less than thirty (30) days, a reply while the time mailing date of this communication or possible speciation to inscribe a publication to inscribe a publication to inscribe a publication to inscribe a publication or possible speciation to inscribe a publication to inscribe a publication or possible speciation to inscribe a publication to inscribe a publication to inscribe a publication in the replication or possible speciation in since on the speciation or all one of the communication.  Page 1 This action is FINAL.  2b) This action is FINAL.  2b) This action is replication for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Exparte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) Claim(s) 1-17 is/are pending in the application.  4a) Of the above claim(s) is/are withdrawn from consideration.  5 Claim(s) 1-17 is/are allowed.  6) Claim(s) is/are objected to.  7 Claim(s) is/are objected to.  8 Claim(s) is/are objected to by the Examiner.  10 The specification is objected to by the Examiner.  Application Papers  9) The specification is objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  11) The cath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. §	• •	ears on the cover sheet with the c	orrespondence address	<u> </u>			
THE MAILING DATE OF THIS COMMUNICATION.  Extensions of time map be available under the provisions of 30°CR 1.33(s). In no event, however, may a reply be timely filed after 5X (5) MONTHS from the mailing date of this communication.  It has period in may be available under the provisions of 30°CR 1.33(s). In no event, however, may a reply be timely filed after 5X (5) MONTHS from the mailing date of this communication.  It has period to make the mailing date of this communication or the provision of the provision	Period for Reply						
1) Responsive to communication(s) filed on	<ul> <li>THE MAILING DATE OF THIS COMMUNICATION.</li> <li>Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication.</li> <li>If the period for reply specified above is less than thirty (30) days, a reply</li> <li>If NO period for reply is specified above, the maximum statutory period w</li> <li>Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing</li> </ul>	66(a). In no event, however, may a reply be tim within the statutory minimum of thirty (30) days rill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	ely filed s will be considered timely. the mailing date of this communication O (35 U.S.C. § 133).				
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## **Drawings**

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: See numeral 501 in figure 5. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

And in Fig. 1B, change "1117" to -117--.

#### References Cited

2. An article under a title "Current Technical Trends: Dual Damascene & Low-k Dielectrics", Jerry Healey teaches relating to the formation of Dual Damascene structures employing Copper metal with transition Silicon Dioxide dielectric.

Chun-Yun et al. (JP2000-208745) show a structure of a device including a capacitor 24 and a dual damascene structure. Yang (US 2002/0102834 A1), Ahn et al. (US 6,696,360 B2), Huang et al. (US 6,313,028 B2), Chen et al. (US 6,524,962 B2). Shih et

al. (US 6,436,787 B1), Shimpuku (US 6,451,688 B1), and Zurcher et al. (US 6,344,413 B1) teach similar to Chun-Yun et al., but fail to teach and/or suggest:

Forming a dual damascene that has a first conductive portion which is copper separated by a dielectric material from a second conductive portion, the second conductive portion is coupled to the first conductive portion underlying the dielectric material through a third conductive portion, the first conductive portion, the dielectric material, and the second conductive portion forming a substantially planar surface region opposing the third conductive portion, the first conductive portion and the second conductive portion coupled through the third conductive portion which is defined as a first electrode.

Selectively removing the dielectric material between the first conductive portion and the second conductive portion to form an opening defined by the first conductive portion and the second conductive portion;

Forming an insulating layer within the opening which is a capacitor dielectric layer therefrom;

Forming a copper layer overlying the insulating the insulating layer to a height above the substantially planar surface to form a second electrode; and planarizing the copper layer to define the second electrode, as set forth in claim 1, and the limitations as set forth in claim 11.

#### Conclusion

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3. This application is in condition for allowance except for the following formal matters:

See paragraph 2 above.

Prosecution on the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

#### Field of Search

4. This application was searched in class 257, subclasses 750, 752, 751, 758, 762, 774; class 438, subclasses 622, 624, 626, 627 ((forming adj capacitor) and copper\$3 and damascene\$3), in view of the disclosure here. This search was ineffective.

### Telephone Inquiry Contacts

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jasmine J. Clark whose telephone number is (571) 272-1726. The Examiner can normally be reached on Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jjbc/03/29/05

JASMINE CLARK PRIMARY EXAMINER